

2007-09-27 12090-05CIP2 Sequence Listing.ST25.txt  
SEQUENCE LISTING

<110> CHUN, Keun Ho  
HWANG, Hyun Jin

<120> TARGET DETECTION SYSTEM HAVING A CONFORMATIONALLY  
SENSITIVE PROBE  
COMPRISING A NUCLEIC ACID BASED SIGNAL TRANSDUCER

<130> 12090-05CIP2

<140> US 10/684,346

<141> 2003-10-11

<150> US 60/417,864

<151> 2002-10-11

<150> US 10/684,230

<151> 2003-10-10

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 <213> Homo sapiens

<220>  
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 <222> (1)..(8)  
 <223> Plasmepsin II cleavage site

<400> 73

Gly Arg Leu Leu Val Val Tyr Pro  
 1 5

<210> 74  
 <211> 8  
 <212> PRT  
 <213> Homo sapiens

<220>  
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 <222> (1)..(8)  
 <223> Falcilysin cleavage site

<300>  
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 <309> 2003-10-04  
 <313> (39)..(46)

<400> 74

Thr Thr Lys Thr Tyr Phe Pro His  
 1 5

<210> 75  
 <211> 8  
 <212> PRT  
 <213> Homo sapiens

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<222> (1)..(8)

<223> Falcilysin cleavage site

<300>

<308> GenBank/NM\_000558

<309> 2003-10-04

<313> (72)..(79)

<400> 75

Ala His Val Asp Asp Met Pro Asn

1 5

<210> 76

<211> 8

<212> PRT

<213> Homo sapiens

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<222> (1)..(8)

<223> Falcilysin cleavage site

<300>

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<309> 2003-10-04

<313> (88)..(95)

<400> 76

His Ala His Lys Leu Arg Val Asp

1 5

<210> 77

<211> 8

<212> PRT

<213> Homo sapiens

<220>

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<222> (1)..(8)

<223> Falcilysin cleavage site

<400> 77

Trp Thr Gln Arg Phe Phe Glu Ser

1 5

<210> 78

<211> 8

<212> PRT

<213> Homo sapiens

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<222> (1)..(8)

<223> Falcilysin cleavage site

<400> 78

Ala Phe Ser Asp Gly Leu Ala His

1 5

<210> 79

<211> 8

<212> PRT

<213> Homo sapiens

<220>

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<222> (1)..(8)

<223> Falcilysin cleavage site

<400> 79

Leu Ala His Leu Asp Asn Leu Lys

1 5

<210> 80

<211> 8

<212> PRT

<213> Homo sapiens

<220>  
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 <222> (1)..(8)  
 <223> Falcilysin cleavage site

<400> 80

Ala Tyr Gln Lys Val Val Ala Gly  
 1 5

<210> 81  
 <211> 8  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> MISC\_FEATURE  
 <222> (1)..(8)  
 <223> Cathepsin cleavage site

<300>  
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 <309> 2003-10-04  
 <313> (27)..(34)

<400> 81

Ala Glu Ala Leu Glu Arg Met Phe  
 1 5

<210> 82  
 <211> 8  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> MISC\_FEATURE  
 <222> (1)..(8)  
 <223> Cathepsin cleavage site

<300>

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<308> GenBank/NM\_000558

<309> 2003-10-04

<313> (34)..(41)

<400> 82

Phe Leu Ser Phe Pro Thr Thr Lys

1 5

<210> 83

<211> 8

<212> PRT

<213> Homo sapiens

<220>

<221> MISC\_FEATURE

<222> (1)..(8)

<223> Cathepsin cleavage site

<400> 83

Thr Pro Glu Glu Lys Ala Ser Val

1 5

<210> 84

<211> 8

<212> PRT

<213> Homo sapiens

<220>

<221> MISC\_FEATURE

<222> (1)..(8)

<223> Cathepsin cleavage site

<400> 84

Val Thr Ala Leu Trp Glu Lys Val

1 5

<210> 85

<211> 8

<212> PRT

<213> Homo sapiens

<220>

<221> MISC\_FEATURE

<222> (1)..(8)

<223> Cathepsin cleavage site

<400> 85

Leu Gly Arg Leu Leu Leu Val Val

1

5

<210> 86

<211> 11

<212> PRT

<213> Artificial

<220>

<223> Synthetic sequence

<220>

<221> MISC\_FEATURE

<222> (1)..(11)

<223> cAMP-dependent protein Kinase phosphorylation site

<400> 86

Tyr Leu Arg Arg Ala Ser Leu Ala Gln Leu Thr

1

5

10

<210> 87

<211> 8

<212> PRT

<213> Homo sapiens

<220>

<221> MISC\_FEATURE

<222> (1)..(8)

<223> cAMP-dependent protein Kinase phosphorylation site

<400> 87

Phe Arg Arg Leu Ser Ile Ser Thr  
1 5

<210> 88

<211> 11

<212> PRT

<213> Bos taurus

<220>

<221> MISC\_FEATURE

<222> (1)..(11)

<223> cAMP-dependent protein Kinase phosphorylation site

<400> 88

Ala Gly Ala Arg Arg Lys Ala Ser Gly Pro Pro  
1 5 10

<210> 89

<211> 8

<212> PRT

<213> Homo sapiens

<220>

<221> MISC\_FEATURE

<222> (1)..(8)

<223> cAMP-dependent protein Kinase phosphorylation site

<400> 89

Gly Arg Gly Leu Ser Leu Ser Arg  
1 5

<210> 90

<211> 11

<212> PRT

<213> Oryctolagus cuniculus

<220>

<221> MISC\_FEATURE

<222> (1)..(11)

<223> Casein Kinase I phosphorylation site; Ser (location:4)  
phosphorylated

<400> 90

Arg Thr Leu Ser Val Ser Ser Leu Pro Gly Leu  
1 5 10

<210> 91

<211> 10

<212> PRT

<213> Bos taurus

<220>

<221> MISC\_FEATURE

<222> (1)..(10)

<223> Casein Kinase I phosphorylation site; Ser (location:4 and 6)  
phosphorylated

<400> 91

Asp Ile Gly Ser Glu Ser Thr Glu Asp Gln  
1 5 10

<210> 92

<211> 10

<212> PRT

<213> Bos taurus

<220>

<221> MISC\_FEATURE

<222> (1)..(10)

<223> Casein Kinase II phosphorylation site

<400> 92

Ala Asp Ser Glu Ser Glu Asp Glu Glu Asp  
1 5 10

<210> 93  
 <211> 11  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> MISC\_FEATURE  
 <222> (1)..(11)  
 <223> Casein Kinase II phosphorylation site

<400> 93

Leu Glu Ser Glu Glu Glu Gly Val Pro Ser Thr  
 1 5 10

<210> 94  
 <211> 11  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> MISC\_FEATURE  
 <222> (1)..(11)  
 <223> Casein Kinase II phosphorylation site

<400> 94

Glu Asp Asn Ser Glu Asp Glu Ile Ser Asn Leu  
 1 5 10

<210> 95  
 <211> 9  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> MISC\_FEATURE  
 <222> (1)..(9)  
 <223> Glycogen Synthase Kinase 3 phosphorylation site: Ser (location:9)  
 phosphorylated



<400> 95

Ser Val Pro Pro Ser Pro Ser Leu Ser

1 5

<210> 96

<211> 9

<212> PRT

<213> Homo sapiens

<220>

<221> MISC\_FEATURE

<222> (1)..(9)

<223> Glycogen Synthase Kinase 3 phosphorylation site: Ser (location: 5 and 9) phosphorylated

<400> 96

Ser Val Pro Pro Ser Pro Ser Leu Ser

1 5

<210> 97

<211> 7

<212> PRT

<213> Aspergillus fumigatus

<220>

<221> MISC\_FEATURE

<222> (1)..(7)

<223> Cdc2 protein Kinase phosphorylation site

<400> 97

Pro Ala Lys Thr Pro Val Lys

1 5

<210> 98

<211> 10

<212> PRT

<213> Simian virus 40

<220>  
 <221> MISC\_FEATURE  
 <222> (1)..(10)  
 <223> Cdc2 protein Kinase phosphorylation site

<400> 98

His Ser Thr Pro Pro Lys Lys Lys Arg Lys  
 1 5 10

<210> 99  
 <211> 11  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> MISC\_FEATURE  
 <222> (1)..(11)  
 <223> Calmodulin-dependent protein Kinase II phosphorylation site

<400> 99

Asn Tyr Leu Arg Arg Arg Leu Ser Asp Ser Asn  
 1 5 10

<210> 100  
 <211> 10  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> MISC\_FEATURE  
 <222> (1)..(10)  
 <223> Calmodulin-dependent protein Kinase II phosphorylation site

<400> 100

Lys Met Ala Arg Val Phe Ser Val Leu Arg  
 1 5 10

<210> 101  
 <211> 13  
 <212> PRT  
 <213> Artificial

<220>  
 <223> Synthetic sequence

<220>  
 <221> MISC\_FEATURE  
 <222> (1)..(13)  
 <223> Insulin receptor phosphorylation site

<400> 101

Arg Arg Leu Ile Glu Asp Ala Glu Tyr Ala Ala Arg Gly  
 1 5 10

<210> 102  
 <211> 4  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> MISC\_FEATURE  
 <222> (1)..(4)  
 <223> Mitogen-activated protein Kinase (Extracellular Signal-regulated Kinase) phosphorylation site

<400> 102

Pro Leu Ser Pro  
 1

<210> 103  
 <211> 4  
 <212> PRT  
 <213> Xenopus laevis

<220>

<221> MISC\_FEATURE  
 <222> (1)..(4)  
 <223> Mitogen-activated protein Kinase (Extracellular Signal-regulated  
 Kinase) phosphorylation site

<400> 103

Pro Ser Ser Pro  
 1

<210> 104  
 <211> 4  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> MISC\_FEATURE  
 <222> (1)..(4)  
 <223> Mitogen-activated protein Kinase (Extracellular Signal-regulated  
 Kinase) phosphorylation site

<400> 104

Val Leu Ser Pro  
 1

<210> 105  
 <211> 21  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> MISC\_FEATURE  
 <222> (1)..(21)  
 <223> Mitogen-activated protein Kinase (Extracellular Signal-regulated  
 Kinase) phosphorylation site

<400> 105

Lys Arg Glu Leu Val Glu Pro Leu Thr Pro Ser Gly Glu Ala Pro Asn  
 1 5 10 15

Gln Ala Leu Leu Arg  
20

<210> 106  
<211> 11  
<212> PRT  
<213> Homo sapiens

<220>  
<221> MISC\_FEATURE  
<222> (1)..(11)  
<223> cGMP-dependent protein Kinase phosphorylation site

<400> 106

Gly Lys Lys Arg Lys Arg Ser Arg Lys Glu Ser  
1 5 10

<210> 107  
<211> 8  
<212> PRT  
<213> Bos taurus

<220>  
<221> MISC\_FEATURE  
<222> (1)..(8)  
<223> cGMP-dependent protein Kinase phosphorylation site

<400> 107

Phe Arg Arg Leu Ser Ile Ser Thr  
1 5

<210> 108  
<211> 7  
<212> PRT  
<213> Artificial

<220>  
<223> Synthetic sequence

<220>  
 <221> MISC\_FEATURE  
 <222> (1)..(7)  
 <223> cGMP-dependent protein Kinase phosphorylation site

<400> 108

Arg Lys Arg Ser Arg Ala Glu  
 1 5

<210> 109  
 <211> 12  
 <212> PRT  
 <213> Homo sapiens

<220>  
 <221> MISC\_FEATURE  
 <222> (1)..(12)  
 <223> Phosphorylase Kinase phosphorylation site

<400> 109

Asp Gln Glu Lys Arg Lys Gln Ile Ser Val Arg Gly  
 1 5 10

<210> 110  
 <211> 10  
 <212> PRT  
 <213> Artificial

<220>  
 <223> Synthetic sequence

<220>  
 <221> MISC\_FEATURE  
 <222> (1)..(10)  
 <223> Phosphorylase Kinase phosphorylation site

<400> 110

Pro Leu Ser Arg Thr Leu Ser Val Ser Ser

1 5 10

<210> 111

<211> 9

<212> PRT

<213> Homo sapiens

<220>

<221> MISC\_FEATURE

<222> (1)..(9)

<223> Protein Kinase C phosphorylation site

<400> 111

His Glu Gly Thr His Ser Thr Lys Arg

1 5

<210> 112

<211> 10

<212> PRT

<213> Artificial

<220>

<223> Synthetic sequence

<220>

<221> MISC\_FEATURE

<222> (1)..(10)

<223> Protein Kinase C phosphorylation site

<400> 112

Pro Leu Ser Arg Thr Leu Ser Val Ser Ser

1 5 10

<210> 113

<211> 11

<212> PRT

<213> Artificial

<220>

<223> Synthetic sequence

<220>

<221> MISC\_FEATURE

<222> (1)..(11)

<223> Protein Kinase C phosphorylation site

<400> 113

Gln Lys Arg Pro Ser Gln Arg Ser Lys Tyr Leu

1

5

10

<210> 114

<211> 12

<212> PRT

<213> Artificial

<220>

<223> Synthetic sequence

<220>

<221> MISC\_FEATURE

<222> (1)..(12)

<223> Protein Kinase C phosphorylation site

<400> 114

Pro Leu Ser Arg Thr Leu Ser Val Ala Ala Lys Lys

1

5

10

<210> 115

<211> 7

<212> PRT

<213> Artificial

<220>

<223> Synthetic sequence

<220>

<221> MISC\_FEATURE



<222> (1)..(7)

<223> Protein Kinase C phosphorylation site

<400> 115

Leu Lys Phe Ser Lys Lys Phe

1 5

<210> 116

<211> 8

<212> PRT

<213> Homo sapiens

<220>

<221> MISC\_FEATURE

<222> (1)..(8)

<223> Protein Kinase C phosphorylation site

<400> 116

Arg Lys Arg Thr Leu Arg Arg Leu

1 5

<210> 117

<211> 21

<212> PRT

<213> Artificial

<220>

<223> Synthetic sequence

<220>

<221> MISC\_FEATURE

<222> (1)..(21)

<223> p34 cdc2 protein Kinase phosphorylation site

<400> 117

Ala Lys Ala Gln His Ala Thr Pro Pro Lys Lys Lys Arg Lys Val Glu

1 5 10 15

Asp Pro Lys Asp Phe

20

<210> 118

<211> 9

<212> PRT

<213> Artificial

<220>

<223> Synthetic sequence

<220>

<221> MISC\_FEATURE

<222> (1)..(9)

<223> Meiosis-activated myelin basic protein Kinase phosphorylation site

<400> 118

Ala Pro Arg Thr Pro Gly Gly Arg Arg

1

5

<210> 119

<211> 11

<212> PRT

<213> Artificial

<220>

<223> Synthetic sequence

<220>

<221> MISC\_FEATURE

<222> (1)..(11)

<223> Smooth Muscle Myosin Light Chain Kinase phosphorylation site

<400> 119

Lys Lys Arg Ala Arg Thr Ser Asn Val Phe Ala

1

5

10

<210> 120

<211> 11

<212> PRT

<213> Artificial

<220>

<223> Synthetic sequence

<220>

<221> MISC\_FEATURE

<222> (1)..(11)

<223> Epidermal Growth Factor Receptor Kinase phosphorylation site

<400> 120

Arg Glu Asn Ala Glu Tyr Leu Arg Val Ala Pro

1 5 10

<210> 121

<211> 10

<212> PRT

<213> Homo sapiens

<220>

<221> MISC\_FEATURE

<222> (1)..(10)

<223> Epidermal Growth Factor Receptor Kinase phosphorylation site

<400> 121

Ala Glu Pro Asp Tyr Gly Ala Leu Tyr Glu

1 5 10

<210> 122

<211> 5

<212> PRT

<213> Artificial

<220>

<223> Synthetic sequence

<220>

<221> MISC\_FEATURE

<222> (1)..(5)

<223> Protein Tyrosine Kinase pp60c-src phosphorylation site

<400> 122

Ile Tyr Gly Glu Phe

1 5

<210> 123

<211> 52

<212> DNA

<213> Artificial

<220>

<223> Synthetic Sequence

<220>

<221> modified\_base

<222> (39)..(39)

<223> The 39th nucleotide t is linked to biotin by a linker.

<400> 123

atggaagtat atggaagtat atggaagtat tcgtgggggtt ttgcagtcgt ag 52

<210> 124

<211> 14

<212> DNA

<213> Artificial

<220>

<223> Synthetic Sequence

<220>

<221> modified\_base

<222> (1)..(1)

<223> The first nucleotide g is linked to fluorescein by a linker.

<400> 124

gactgcaaaa cccc 14

<210> 125

<211> 52

<212> DNA

<213> Artificial

<220>

<223> Synthetic Sequence

<220>

<221> misc\_feature

<222> (39)..(39)

<223> The 39th nucleotide n is an abasic nucleotide,  
6-amino-2-hydroxymethyl hexanol linked to biotin.

<400> 125

atggaagtat atggaagtat atggaagtat tcgtggggnt ttgcagtcgt ag 52

<210> 126

<211> 16

<212> DNA

<213> Artificial

<220>

<223> Synthetic Sequence

<220>

<221> modified\_base

<222> (1)..(1)

<223> The first nucleotide g is linked to fluorescein by a linker.

<400> 126

gactgcaaaa ccccac 16

<210> 127

<211> 36

<212> DNA

<213> Artificial

<220>

<223> Synthetic Sequence

<220>  
 <221> modified\_base  
 <222> (1)..(1)  
 <223> The first nucleotide g is linked to fluorescein by a linker.

<220>  
 <221> stem\_loop  
 <222> (1)..(36)

<220>  
 <221> modified\_base  
 <222> (34)..(34)  
 <223> The 34th nucleotide t is linked to biotin by a linker.

<220>  
 <221> modified\_base  
 <222> (36)..(36)  
 <223> The last (36th) nucleotide c is linked to DABCYL  
 (4-(4-dimethylaminophenylazo)benzoic acid) by a linker.

<400> 127  
 gcagcctagg aaacaccaaa gatgatattt ggctgc 36

<210> 128  
 <211> 38  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Synthetic Sequence

<220>  
 <221> modified\_base  
 <222> (1)..(1)  
 <223> The first nucleotide g is linked to fluorescein by a linker.

<220>  
 <221> stem\_loop  
 <222> (1)..(38)

<220>  
 <221> modified\_base  
 <222> (6)..(6)  
 <223> The 6th nucleotide t is linked to biotin by a linker.

<220>  
 <221> modified\_base  
 <222> (36)..(36)  
 <223> The 36th nucleotide t is linked to biotin by a linker.

<220>  
 <221> modified\_base  
 <222> (38)..(38)  
 <223> The last (38th) nucleotide c is linked to DABCYL  
 (4-(4'-dimethylaminophenylazo)benzoic acid) by a linker.

<400> 128  
 gcagctctag gaaacaccaa agatgatatt tgagctgc 38

<210> 129  
 <211> 30  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Synthetic Sequence

<400> 129  
 aaatatcatc ttgggtgtt cctaggctgc 30

<210> 130  
 <211> 14  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Synthetic Sequence

<400> 130  
 gactgcaaaa cccc 14

<210> 131  
 <211> 12  
 <212> DNA  
 <213> Artificial

<220>

<223> Synthetic Sequence

<220>

<221> modified\_base

<222> (1)..(1)

<223> The first nucleotide c is linked to fluorescein by a linker.

<400> 131

ctacgactgc aa

12

<210> 132

<211> 52

<212> DNA

<213> Artificial

<220>

<223> Synthetic Sequence

<400> 132

atggaagtat atggaagtat atggaagtat togtgggggtt ttgcagtcgt ag

52

<210> 133

<211> 14

<212> DNA

<213> Artificial

<220>

<223> Synthetic Sequence

<220>

<221> modified\_base

<222> (4)..(4)

<223> The 4th nucleotide t is linked to biotin by a linker.

<400> 133

gactgcaaaa cccc

14

<210> 134

<211> 16

<212> DNA

<213> Artificial



<220>

<223> Synthetic Sequence

<400> 134

gactgcaaaa ccccac

16

<210> 135

<211> 52

<212> DNA

<213> Artificial

<220>

<223> Synthetic Sequence

<220>

<221> modified\_base

<222> (1)..(1)

<223> The first nucleotide a is linked to biotin by a linker.

<400> 135

atggaagtat atggaagtat atggaagtat tcgtgggggtt ttgcagtcgt ag

52

<210> 136

<211> 16

<212> DNA

<213> Artificial

<220>

<223> Synthetic Sequence

<220>

<221> modified\_base

<222> (4)..(4)

<223> The 4th nucleotide t is linked to biotin by a linker.

<400> 136

gactgcaaaa ccccac

16

<210> 137

<211> 52

<212> DNA

<213> Artificial

<220>

<223> Synthetic Sequence

<220>

<221> modified\_base

<222> (1)..(1)

<223> The first nucleotide a is linked to biotin by a linker.

<220>

<221> misc\_feature

<222> (39)..(39)

<223> The 39th nucleotide n is an abasic nucleotide,  
6-amino-2-hydroxymethyl hexanol linked to digoxigenin.

<400> 137

atggaagtat atggaagtat atggaagtat tcgtggggnt ttgcagtcgt ag 52

<210> 138

<211> 14

<212> DNA

<213> Artificial

<220>

<223> Synthetic sequence

<220>

<221> stem\_loop

<222> (1)..(14)

<220>

<221> modified\_base

<222> (12)..(12)

<223> The 12nd nucleotide t is linked to biotin by a linker.

<400> 138

gcaggactac ctgc 14

<210> 139

<211> 16

<212> DNA

<213> Artificial

<220>

<223> Synthetic sequence

<220>

<221> stem\_loop

<222> (1)..(16)

<220>

<221> modified\_base

<222> (14)..(14)

<223> The 14th nucleotide t is linked to biotin by a linker.

<400> 139

gcaggacttt acctgc

16

<210> 140

<211> 18

<212> DNA

<213> Artificial

<220>

<223> Synthetic sequence

<220>

<221> stem\_loop

<222> (1)..(18)

<220>

<221> modified\_base

<222> (16)..(16)

<223> The 16th nucleotide t is linked to biotin by a linker.

<400> 140

gcaggactca ttacctgc

18

<210> 141

<211> 25

<212> DNA

<213> Artificial

<220>  
<223> Synthetic sequence

<220>  
<221> stem\_loop  
<222> (1)..(25)

<220>  
<221> modified\_base  
<222> (23)..(23)  
<223> The 23rd nucleotide t is linked to biotin by a linker.

<400> 141  
gcaggatact cattaccata cctgc 25

<210> 142  
<211> 35  
<212> DNA  
<213> Artificial

<220>  
<223> Synthetic sequence

<220>  
<221> stem\_loop  
<222> (1)..(35)

<220>  
<221> modified\_base  
<222> (33)..(33)  
<223> The 33rd nucleotide t is linked to biotin by a linker.

<400> 142  
gcaggatact cattagcgac gaacaccata cctgc 35

<210> 143  
<211> 45  
<212> DNA  
<213> Artificial

<220>

<223> Synthetic sequence

<220>

<221> stem\_loop

<222> (1)..(45)

<220>

<221> modified\_base

<222> (43)..(43)

<223> The 43rd nucleotide t is linked to biotin by a linker.

<400> 143

gcaggatact tagaccaaca cattagcgac gaacaccata cctgc

45

<210> 144

<211> 25

<212> DNA

<213> Artificial

<220>

<223> Synthetic sequence

<220>

<221> stem\_loop

<222> (1)..(25)

<220>

<221> modified\_base

<222> (23)..(23)

<223> The 23rd nucleotide t is linked to biotin by a linker.

<400> 144

cgaccatcct cattaccata ggtcg

25

<210> 145

<211> 25

<212> DNA

<213> Artificial

<220>

<223> Synthetic sequence

<220>  
 <221> stem\_loop  
 <222> (1)..(25)  
  
 <220>  
 <221> modified\_base  
 <222> (23)..(23)  
 <223> The 23rd nucleotide t is linked to biotin by a linker.

<400> 145  
 gcagcatcct cattacccta gctgc 25

<210> 146  
 <211> 25  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Synthetic sequence

<220>  
 <221> stem\_loop  
 <222> (1)..(25)  
  
 <220>  
 <221> modified\_base  
 <222> (23)..(23)  
 <223> The 23rd nucleotide t is linked to biotin by a linker.

<400> 146  
 cgacgatcct cattaccata cgtcg 25

<210> 147  
 <211> 25  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Synthetic sequence

<220>

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<221> stem\_loop

<222> (1)..(25)

<220>

<221> modified\_base

<222> (23)..(23)

<223> The 23rd nucleotide t is linked to biotin by a linker.

<400> 147

ggaggataat cattaccata cctcc

25

<210> 148

<211> 25

<212> DNA

<213> Artificial

<220>

<223> Synthetic sequence

<220>

<221> stem\_loop

<222> (1)..(25)

<220>

<221> modified\_base

<222> (23)..(23)

<223> The 23rd nucleotide t is linked to biotin by a linker.

<400> 148

ccaccatact cattacccta ggtgg

25

<210> 149

<211> 23

<212> DNA

<213> Artificial

<220>

<223> Synthetic sequence

<220>

<221> stem\_loop

<222> (1)..(23)

<220>  
 <221> modified\_base  
 <222> (21)..(21)  
 <223> The 21st nucleotide t is linked to biotin by a linker.

<400> 149  
 gcagatactc attaccatac tgc 23

<210> 150  
 <211> 25  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Synthetic sequence

<220>  
 <221> stem\_loop  
 <222> (1)..(25)

<220>  
 <221> modified\_base  
 <222> (23)..(23)  
 <223> The 23rd nucleotide t is linked to biotin by a linker.

<400> 150  
 gcaggatact gcttaccata cctgc 25

<210> 151  
 <211> 25  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Synthetic sequence

<220>  
 <221> stem\_loop  
 <222> (1)..(25)

<220>



<221> modified\_base

<222> (23)..(23)

<223> The 23rd nucleotide t is linked to biotin by a linker.

<400> 151

gcaggactct cattactg cctgc

25

<210> 152

<211> 25

<212> DNA

<213> Artificial

<220>

<223> Synthetic sequence

<220>

<221> modified\_base

<222> (25)..(25)

<223> The 25th nucleotide t is linked to biotin by a linker.

<400> 152

agcgcatcct cattacccta gcgct

25

<210> 153

<211> 25

<212> DNA

<213> Artificial

<220>

<223> Synthetic sequence

<220>

<221> stem\_loop

<222> (1)..(25)

<220>

<221> modified\_base

<222> (21)..(21)

<223> The 21st nucleotide t is linked to biotin by a linker.

<400> 153

gcgcaatcct cattacccta tgcgc

25

<210> 154  
 <211> 25  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Synthetic sequence

<220>  
 <221> stem\_loop  
 <222> (1)..(25)

<220>  
 <221> modified\_base  
 <222> (19)..(19)  
 <223> The 19th nucleotide t is linked to biotin by a linker.

<400> 154  
 gcagcatcct cattacccta gctgc 25

<210> 155  
 <211> 25  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Synthetic sequence

<220>  
 <221> stem\_loop  
 <222> (1)..(25)

<220>  
 <221> modified\_base  
 <222> (13)..(13)  
 <223> The 13rd nucleotide t is linked to biotin by a linker.

<400> 155  
 gcagcatcct cattacccta gctgc 25

<210> 156  
 <211> 25  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Synthetic sequence

<220>  
 <221> stem\_loop  
 <222> (1)..(25)

<220>  
 <221> modified\_base  
 <222> (10)..(10)  
 <223> The 10th nucleotide t is linked to biotin by a linker.

<400> 156  
 gcagcatcct cattacccta gctgc 25

<210> 157  
 <211> 25  
 <212> DNA  
 <213> Artificial

<220>  
 <223> Synthetic sequence

<220>  
 <221> modified\_base  
 <222> (1)..(1)  
 <223> The first nucleotide g is linked to fluorescein by a linker.

<220>  
 <221> stem\_loop  
 <222> (1)..(25)

<220>  
 <221> modified\_base  
 <222> (25)..(25)  
 <223> The last (25th) nucleotide c is linked to DABCYL  
 (4-(4'-dimethylaminophenylazo)benzoic acid) by a linker.

<400> 157  
gcagctagga gtaatggat gctgc 25

<210> 158  
<211> 15  
<212> DNA  
<213> Artificial

<220>  
<223> Synthetic sequence

<220>  
<221> modified\_base  
<222> (11)..(11)  
<223> The 11st nucleotide t is linked to biotin by a linker.

<400> 158  
atcccatc tccta 15

<210> 159  
<211> 13  
<212> DNA  
<213> Artificial

<220>  
<223> Synthetic sequence

<220>  
<221> modified\_base  
<222> (11)..(11)  
<223> The 11st nucleotide t is linked to biotin by a linker.

<400> 159  
atcccatc tcc 13

<210> 160  
<211> 15  
<212> DNA  
<213> Artificial

<220>

<223> Synthetic sequence

<400> 160

tagggaatg aggat

15

<210> 161

<211> 25

<212> DNA

<213> Artificial

<220>

<223> Synthetic sequence

<220>

<221> stem\_loop

<222> (1)..(25)

<220>

<221> modified\_base

<222> (23)..(23)

<223> The 23rd nucleotide t is linked to carboxyl group by a linker.

<400> 161

gcagcatcct cattacccta gctgc

25

<210> 162

<211> 25

<212> DNA

<213> Artificial

<220>

<223> Synthetic sequence

<220>

<221> stem\_loop

<222> (1)..(25)

<220>

<221> modified\_base

<222> (23)..(23)

<223> The 23rd nucleotide t is linked to amine group by a linker.

<400> 162  
gcagcatcct cattacccta gctgc 25

<210> 163  
<211> 7  
<212> PRT  
<213> Artificial

<220>  
<223> Synthetic sequence

<220>  
<221> MISC\_FEATURE  
<222> (1)..(7)  
<223> Protein Kinase C phosphorylation site

<400> 163  
Lys Arg Thr Leu Arg Arg Cys  
1 5

<210> 164  
<211> 6  
<212> PRT  
<213> Homo sapiens

<220>  
<221> MISC\_FEATURE  
<222> (1)..(6)  
<223> Protein Kinase C phosphorylation site

<400> 164  
Lys Arg Thr Leu Arg Arg  
1 5

<210> 165  
<211> 25  
<212> DNA  
<213> Artificial

<220>

<223> Synthetic sequence

<220>

<221> stem\_loop

<222> (1)..(25)

<220>

<221> modified\_base

<222> (23)..(23)

<223> The 23rd nucleotide t is linked to phosphorylated heptapeptide, KRpTLRRC, by a linker.

<400> 165

gcagcatcct cattacccta gctgc

25

<210> 166

<211> 7

<212> PRT

<213> Artificial

<220>

<223> Synthetic sequence

<220>

<221> MISC\_FEATURE

<222> (3)..(3)

<223> The 3rd amino acid T is phosphorylated.

<400> 166

Lys Arg Thr Leu Arg Arg Cys

1

5

<210> 167

<211> 25

<212> DNA

<213> Artificial

<220>

<223> Synthetic sequence

<220>

<221> stem\_loop

<222> (1)..(25)

<220>

<221> modified\_base

<222> (23)..(23)

<223> The 23rd nucleotide t is linked to the heptapeptide, KRpTLRRC, by  
a linker.

<400> 167

gcagcatcct cattacccta gctgc

25